

We claim:

1. A method of controlling reverse link transmission by at least one mobile station, comprising:

first scheduling a reverse link transmission by at least one mobile station by sending a schedule grant message according to a first scheduling protocol, the schedule grant message providing the at least one mobile station with approval to transmit, the schedule grant message further establishing a rate limit for transmissions scheduled according to a second scheduling protocol.

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2. The method of claim 1, wherein the first scheduling protocol is a scheduling mode protocol and the second scheduling protocol is a rate control mode protocol.

15 3. The method of claim 1, further comprising:

second scheduling a subsequent reverse link transmission by the mobile station by sending a rate control instruction according to the second scheduling protocol.

20 4. The method of claim 3, wherein the first scheduling step sends the schedule grant message over a first forward control channel and the second scheduling step sends the rate control instruction over a second forward control channel.

5. The method of claim 3, wherein the rate control instruction indicates to transmit at the rate limit.

6. The method of claim 5, wherein a failure to send a rate control instruction indicates not to transmit.

7. The method of claim 3, wherein the rate control instruction indicates one of an increase and a decrease in the rate limit.

8. The method of claim 3, further comprising:
sending another schedule grant message that resets the rate limit.

9. The method of claim 3, further comprising:
determining a change in rate limit between a previously scheduled transmission and a currently scheduled transmission; and
performing the second scheduling step when the determined change does not exceed a threshold amount.

10. The method of claim 1, further comprising:
sending another schedule grant message that resets the rate limit.

11. A method of controlling reverse link transmission by at least one mobile station, comprising:

scheduling a reverse link transmission by at least one mobile station by sending a schedule grant message according to a first scheduling protocol, the schedule grant message providing the at least one mobile station with approval to transmit, the schedule grant message resetting a rate limit for transmissions scheduled according to a second scheduling protocol.

12. The method of claim 11, wherein the first scheduling protocol is a scheduling mode protocol and the second scheduling protocol is a rate control mode protocol.

13. A method of making reverse link transmission, comprising:
transmitting based on a rate limit set by a previously received schedule grant message if a rate control instruction is received.

14. The method of claim 13, wherein the previously received schedule grant message is received over a first channel and the rate control instruction is received over a second channel.

15. The method of claim 13, further comprising:
reducing the rate limit if no rate control instruction is received;
and
increasing the rate limit if a rate control instruction is received.

16. The method of claim 13, further comprising:

adjusting the rate limit based on an accumulation of rate control instructions received since the previously received schedule grant message.

5 17. A method of making reverse link transmission, comprising:
transmitting based on a rate of a previous transmission made in response to a previously received schedule grant message if a rate control instruction is received.

10 18. A method of controlling reverse link transmission by at least one mobile station, comprising:
overriding a common rate control instruction for the at least one mobile station by sending a schedule grant message for the at least one mobile station.

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19. The method of claim 18, further comprising:
first determining whether to override a common rate control instruction for a mobile station based on an available load at a base station; and

20 performing the overriding step for a mobile station when the determining step determines to override the common rate control instruction for the mobile station.

20. The method of claim 19, wherein the determining step determines
25 whether to override the common rate control instruction for the mobile

station based on the available load at the base station, an estimated increase in the available load if the mobile station ignores the common rate control instruction and an estimated reduction in the available load if the mobile station transmits in response to a schedule grant message.

21. The method of claim 19, further comprising:

second determining, for each mobile station in a set of mobile stations to be scheduled, whether to consider the mobile station for overriding the common rate control instruction based on a rate supported by the mobile station and a rate limit set forth according to a previous common rate control instruction; and

performing the first determining step with respect to the mobile stations determined in the second determining step.

22. A method of controlling reverse link transmission by at least one mobile station, comprising:

first transmitting, at a mobile station, according to a schedule grant message instead of a common rate control instruction.

23. The method of claim 22, wherein the transmitting step is a retransmission of a negative-acknowledged transmission sent in response to a schedule grant message.

24. The method of claim 22, further comprising:

second transmitting, subsequent to the first transmitting,
according a common rate control instruction and a rate of
transmission in response to a previous common rate control
instruction.

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25. The method of claim 22, further comprising:

setting a secondary pilot level based on a weighted average of
the secondary pilot levels corresponding to possible transmission
rates.

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26. A method, comprising:

transmitting a pilot signal on the reverse link at a power derived
from a rate assigned to the mobile station for a scheduled
transmission.